

Plains, Dunes & Deserts

Dune Sea with Landling

Learning target

Distinguish landform shape from climate and explain dune formation.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Broad flat land; wind transport; dune deposition; dry environments

Open Dune Sea - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Plains, Dunes & Deserts - key ideas

1. The first clues

A plain is broad, relatively flat land. A dune is a mound or ridge of sand deposited by wind.

2. How the clues connect

Desert describes a dry climate, not one landform. Deserts can be cold, rocky or sandy; not every desert is hot.

3. Our evidence record

In our wind model, moving air carries sand until it slows behind a barrier. Sand builds there as a deposit. A dune's location can change as wind moves its grains.

Keep the science accurate

Desert describes a dry climate; dunes are landforms. Not every desert is hot or sandy.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/dci-arrangement/4-ess2-earths-systems>

Talk through the evidence

1. What builds a sand dune?

Expected answer: Wind deposition

Reasoning: In our wind model, moving air carries sand until it slows behind a barrier. Sand builds there as a deposit. A dune's location can change as wind moves its grains.

2. Does every desert have hot sand?

Expected answer: No, deserts vary

Reasoning: Desert describes a dry climate, not one landform. Deserts can be cold, rocky or sandy; not every desert is hot.

3. Where does sand collect in our model?

Expected answer: Where wind slows behind a barrier

Reasoning: In our wind model, moving air carries sand until it slows behind a barrier. Sand builds there as a deposit. A dune's location can change as wind moves its grains.

4. Which comparison is accurate?

Expected answer: Plain describes shape; desert describes dryness

Reasoning: Desert describes a dry climate, not one landform. Deserts can be cold, rocky or sandy; not every desert is hot.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.